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Experiment: 16. Implement a Sobel algorithm using Open CV to filter the input image.

Code:

```
import cv2

i = cv2.imread("image.jpg")

g = cv2.cvtColor(i, cv2.COLOR_BGR2GRAY)

sx = cv2.Sobel(g, cv2.CV_64F, 1, 0, ksize=3)

sy = cv2.Sobel(g, cv2.CV_64F, 0, 1, ksize=3)

s = cv2.magnitude(sx, sy)

cv2.imshow("Original Image", i)

cv2.imshow("Sobel Edge Image", s)

cv2.waitKey(0)

cv2.destroyAllWindows()
```

Input and Output:

